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DISCLOSURE TITLE: Flux Guide/Tunnel Valve Structure With Conducting
            Contiguous Junction

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DISCLOSURE TEXT:

Disclosed is a new **flux guide/tunnel valve** structure which
achieves conducting contiguous junction between the **flux guide** and
the **tunnel valve** sensor. The conducting contiguous junction will
provide higher flux coupling efficiency compared to the prior art
insulating contiguous junction. In addition, the new structure
provides straight side walls for the front **flux guide** implying better
track width definition.
The process sequence/steps for the new structure is:
1. Deposit bottom ferromagnetic shield.
2. Deposit insulation, **flux guide,** and insulation.
3. Pattern **flux guide** (etch **flux guide** only), deposit hard bias
and insulation over the hard bias. The structure at this point is
shown in Fig. A.

4. Pattern **tunnel valve,** etch **flux guide** and insulation down to
shield. The structure is shown in Fig. B.

5. Deposit **tunnel valve** with free layer at bottom.
6. Pattern **tunnel valve,** and deposit insulation/hard bias/insulation. The structure is shown in Fig. C.
7. Deposit top ferromagnetic shield.
The shields make electrical contact only to **tunnel valve**.